



# Memo

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**To:** Brian Mossman, S. Mario Stavale  
**From:** Dean Kirk  
**CC:** Tom Danaher, Rus Purcell (Kennedy Jenks), IESI Boeing C-6 file  
**Date:** August 4, 2000  
**Re:** Water-Supply Wells, Boeing C-6 Facility, Los Angeles

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Provided herewith is an update on the Water-Supply Wells record search for the Boeing C-6 facility located in Los Angeles, California.

Integrated Environmental Services (IESI) completed a thorough review of IESI files, library documents and electronic documents.

A total of three Water-Supply Wells were located on the site.

Water-Supply Well #2 and #3 were destroyed in accordance with a Los Angeles Regional Water Quality Control Board (LARWQCB) approved workplan. A copy of the agency approval letter is attached. Richard C. Slade and Associates (RCS) prepared the workplan. IESI provided oversight during the workplan development and well destruction activities. A copy of the workplan is attached.

RCS prepared a well destruction summary report which was approved by the LARWQCB. A copy of the agency approval letter is attached. One outstanding item exists from the Boards letter dated December 24, 1998. Water-Supply Well #2 will require the surface concrete to be drilled out to 5-feet below ground surface and a concrete "mushroom cap" placed over it when site conditions allow.

Copies of the original well logs for Water-Supply Well #1-3 were located and are attached. The logs contained measured coordinates from the centerlines of Normandie Avenue and 190<sup>th</sup> street. I had these plotted on the Boeing C-6 base map. The well locations are shown on Figure 1 (attached). Based upon the coordinates and base map, Water-Supply Well #1 is located approximately in the middle of the building 20 footprint. This may be helpful with locating Water-Supply Well #1 during the demolition activities.

Based upon the existence of Water-Supply Well #1 well log, I believe its safe to assume the well existed.

No information regarding the destruction of Water-Supply Well #1 was found except for a statement in RCS workplan and final report, "Well no. 1 reportedly no longer exists at the site, and there are no records to document when and how Well no. 1 was destroyed."

I contacted Richard Slade of RCS and he had no additional information on the well.

I believe the destruction may have occurred prior to the implementation of any agency well destruction standards. The water well standards, published by the DWR were initially printed in 1968.

I will continue to search the DWR, United States Geological Survey (USGS) and Los Angeles County Department of Public Works, Flood Control District (LACDPWFCD) for records on Water-Supply Well #1. I will keep you updated on these activities.

Please let me know if you have any questions or comments.

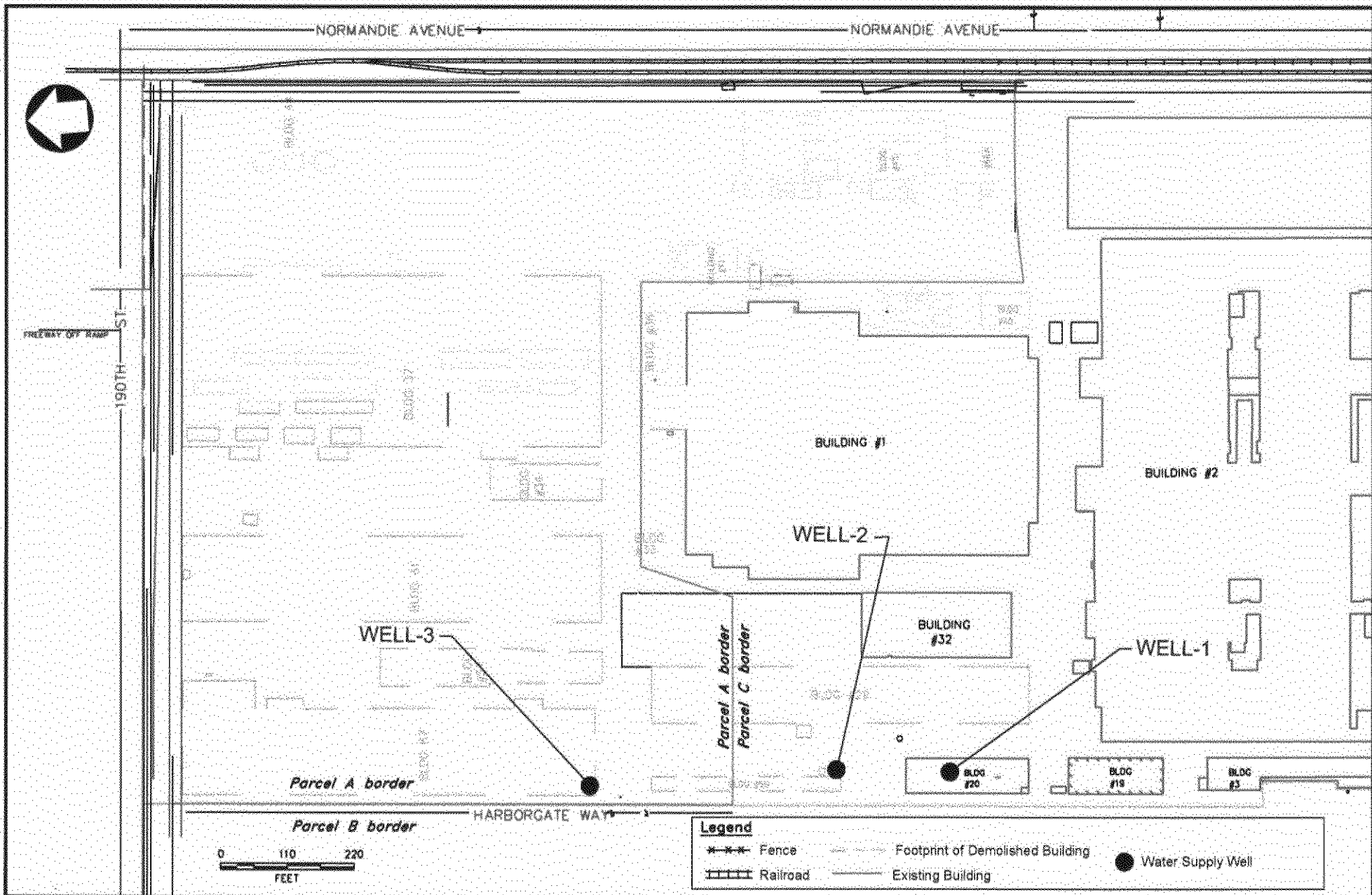
Attachments: IESI, figure 1, Water Supply Well Location Map, Parcels A and C

California Environmental Protection Agency, California Regional Water Quality Control Board, Los Angeles Region, Correspondence dated 12/24/98, 8/12/98, 6/22/98, 4/23/98

Department of Water Resources, Correspondence (well logs) dated 7/6/98

Richard D. Slade & Associates, Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility, Los Angeles, California, June 1998

Richard D. Slade & Associates, Summary of Operations, Destruction of Two Water-Supply Wells, Boeing Realty Corporation, C-6 Facility, Los Angeles, California, September, 1998



**INTEGRATED**  
Environmental Services, Inc.  
22832 El Toro Road  
Lake Forest, CA 92630 (949) 809-3290

TITLE:

**Water Supply Well Location Map  
Parcels A and C**

**Boeing C-6 Facility**

19503 South Normandie Ave.  
Los Angeles, California 90502

DWN:	JDL	CHKD:	DK
DATE:	8/1/00	REV.:	8/3/00
PROJECT NO.:	006A/002		

FIGURE NO.:

1



Peter M. Rooney  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Los Angeles Region

Internet Address: <http://www.swrcb.ca.gov/~rwqcb4>  
101 Centre Plaza Drive, Monterey Park, California 91754-2156  
Phone (323) 266-7500 FAX (323) 266-7600



Pete Wilson  
Governor

December 24, 1998

Mr. Chris Stoker  
Integrated Environmental Services, Inc.  
3990 Westerly Place, Suite 210  
Newport Beach, CA 92660

### SUMMARY OF OPERATIONS - DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Summary of Operations - Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated September 1998. Staff also discussed the results of the well destruction operations with you on August 24, 1998. Based on the above, we concur that Deep Wells No. 2 and 3 were destroyed and abandoned in accordance with the approved workplan and ensuing addenda. Please note that the top five (5) feet of Deep Well No. 2 will be drilled out and filled with a concrete "mushroom cap" when site conditions allow, as per your August 24, 1998 request.

Should you have any questions or comments regarding the above, please call Hugh Marley at (323) 266-7669.

J.E. ROSS, P.E., Unit Chief  
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach  
Ms. Debbie Oudiz, Office of Scientific Affairs  
Mr. Mario Stavale, Boeing Realty Corporation  
Mr. Jeff Dhont, Federal EPA

*California Environmental Protection Agency*

*Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.*

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BOE-C6-0046327



Peter M. Rooney  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Los Angeles Region

Internet Address: <http://www.swrcb.ca.gov/~rwqcb4>  
101 Centre Plaza Drive, Monterey Park, California 91754-2156  
Phone (323) 266-7500 FAX (323) 266-7600



Pete Wilson  
Governor

August 12, 1998

Mr. Chris Stoker  
Integrated Environmental Services, Inc.  
3990 Westerly Place, Suite 210  
Newport Beach, CA 92660

### RESPONSE TO COMMENTS - WORKPLAN FOR DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Response to Comments on the Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated August 10, 1998. Staff also discussed the responses with BRC's consultants during a comment resolution conference call on August 4, 1998. Our comments on the potential for cross contamination between aquifers during the well destruction process, forwarded to BRC on June 22, 1998, have been appropriately addressed. You are authorized to implement the deep well destruction workplan.

Should you have any questions or comments regarding the above, please call Hugh Marley at (213)266-7669.

J.E. ROSS, P.E., Unit Chief  
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach  
Ms. Debbie Oudiz, Office of Scientific Affairs  
Mr. Mario Stavale, Boeing Realty Corporation  
Mr. Jeff Dhont, Federal EPA

*California Environmental Protection Agency*



Recycled Paper

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BOE-C6-0046328



Peter M. Rooney  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Los Angeles Region

Internet Address: <http://www.swrcb.ca.gov>  
101 Centre Plaza Drive, Monterey Park, California 91754-2156  
Phone (213) 266-7500 • FAX (213) 266-7600



Pete Wilson  
Governor

June 22, 1998

Mr. Chris Stoker  
Integrated Environmental Services, Inc.  
3990 Westerly Place, Suite 210  
Newport Beach, CA 92660

### WORKPLAN FOR DESTRUCTION OF TWO WATER-SUPPLY WELLS AT THE BOEING REALTY CORPORATION C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)

We have received and reviewed your *Workplan for Destruction of Two Water-Supply Wells at the Boeing Realty Corporation C-6 Facility in Los Angeles*, dated June 1998. Our comments are as follows:

- Shallow groundwater in the vicinity of the two wells may be contaminated. The abandonment procedure includes perforating the well casing. Please address the likelihood that this procedure may introduce contaminants from the shallow groundwater into deeper aquifers. Include any known data on the potentiometric surface for each aquifer penetrated by the well. Identify the time difference between perforating the casing and grouting the well.
- The workplan states, on page 6, that the well sediment will be sampled for VOCs and nitrate. Please clarify why only VOCs and nitrates were selected. Also, include the sediment sampling results as part of the final report.
- Should oil (free product) be detected in the well, as discussed on page 4, we will require that the oil be analyzed, and its impact on the aquifer, if any, be determined.

Should you have any questions or comments regarding the above, please call Hugh Marley at (213)266-7669.

J.E. ROSS, P.E., Unit Chief  
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach  
Ms. Debbie Oudiz, Office of Scientific Affairs  
Mr. Mario Stavale, Boeing Realty Corporation  
Mr. Jeff Dhont, Federal EPA

*California Environmental Protection Agency*



Recycled Paper

*Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.*

BOE-C6-0046329



**Cal/EPA**

**Los Angeles  
Regional Water  
Quality Control  
Board**

101 Centre  
Plaza Drive  
Monterey Park,  
CA  
91754-2156  
(213) 266-7500  
FAX (213) 266-  
7600

April 23, 1998

Mr. Chris Stoker  
Integrated Environmental Services, Inc.  
3990 Westerly Place, Suite 210  
Newport Beach, CA 92660

**PROPOSAL FOR WELL ABANDONMENT - BOEING C-6 FACILITY, LOS ANGELES, CALIFORNIA (FILE NO. 100.315)**

We have received and reviewed your proposal to abandon Owners Well No. 2 and Owners Well No. 3, located on the Boeing C-6 Facility in Los Angeles, dated April 15, 1998. The wells, part of the former fire suppression system, extend to a depth of 600 feet below ground surface. Well construction details, screen length, and overall condition are currently unknown. During the course of discussions held on March 2, 1998 and April 2, 1998, BRC proposed abandoning Owners Well No. 2 and Owners Well No. 3, and replacing them with two, properly constructed, deep monitoring wells, if required. Therefore, we concur with your proposal to abandon Owners Well No. 2 and Owners Well No. 3. However, we continue to believe that sampling the deep wells prior to abandonment must be included in the proposed workplan, as it may provide data pertinent both to the ongoing groundwater investigation and as to whether additional deep wells are required.

Should you have any questions or comments regarding the above, please call me at (213)266-7550.

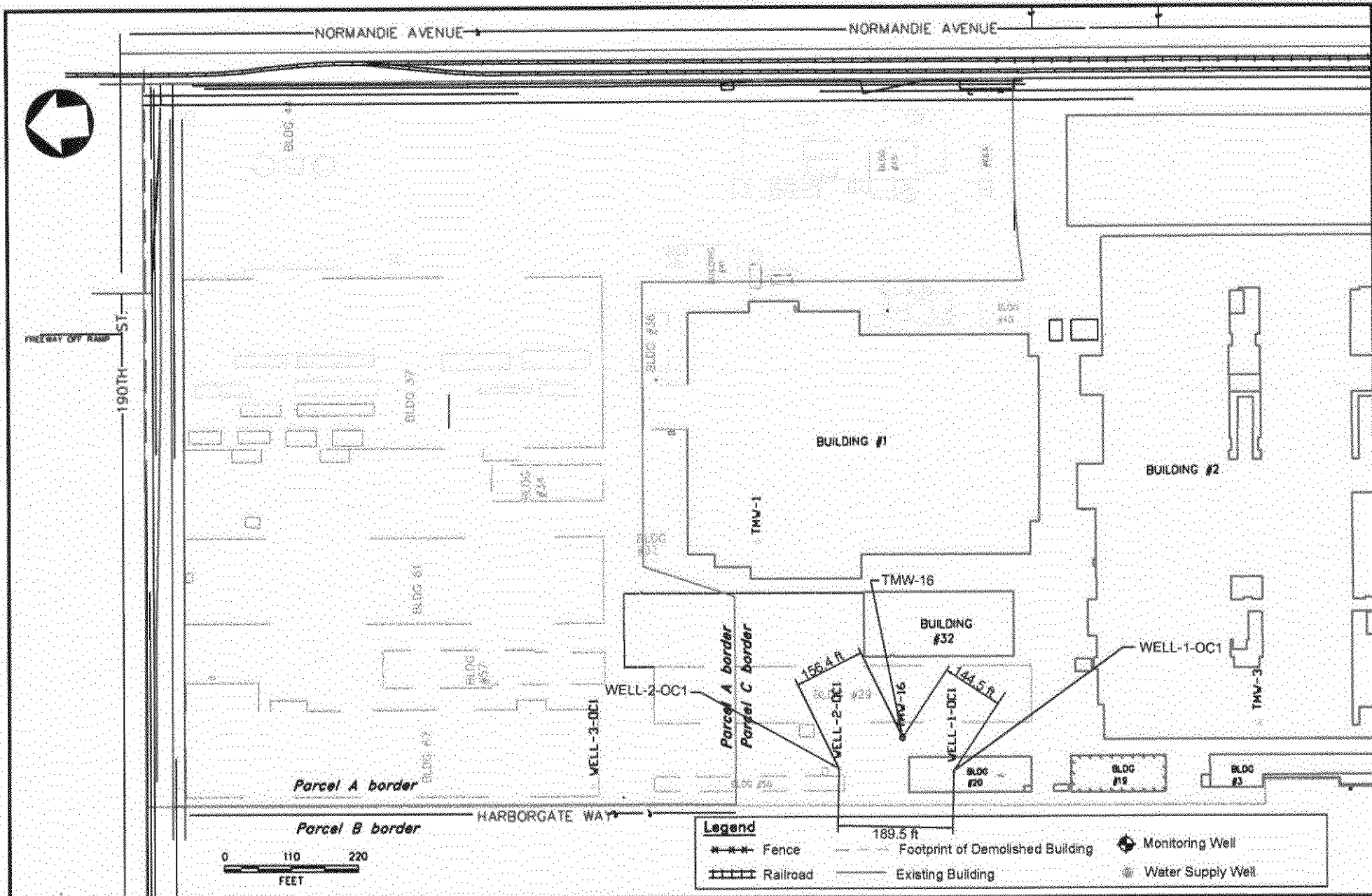
*J.E. Ross*

J.E. ROSS, P.E., Unit Chief  
Site Cleanup Unit

cc: Ms. Karen Baker, DTSC, Long Beach  
Ms. Debbie Oudiz, Office of Scientific Affairs  
Mr. Mario Stavale, Boeing Realty Corporation  
Mr. Jeff Dhont, Federal EPA



Pete  
Wilson  
Governor



**INTEGRATED**  
Environmental Services, Inc.  
22932 El Toro Road  
Lake Forest, CA 92630 (949) 608-3290

TITLE:

**Water Supply Well Location Map  
Parcels A and C**

**Boeing C-6 Facility**

19503 South Normandie Ave.  
Los Angeles, California 90502

DWN:	JDL	CHKD:	DK
DATE:	8/1/00	REV:	8/2/00
PROJECT NO.: 006A/002			

FIGURE NO.:

1



## DEPARTMENT OF WATER RESOURCES

770 Fairmont Avenue  
Glendale, CA 91203-1035  
(818) 543-4600, Ext. 223



Greg

7/6/98

We are sending you the following:

- ☐ Chemical analyses of surface/ground water
- ☐ Quality criteria for domestic and irrigation water
- ☐ Postal cards for
  - ☐ Depth to water
  - ☐ Climate
  - ☐ Reservoir storage
- ☐ Envelopes
- ☐ Record books
- ☐ Notice of Intent, DWR Form No. 2125 (monthly printout)
- ☐ Water Well Drillers Reports, DWR Form No. 188, Rev. 7-90
- ☐ "General Information concerning Water Well Reports", and an extract from the California Water Code
- ☐ DWR Bulletin No. 74-81, Water Well Standards: State of California
- ☐ DWR Bulletin No. 74-90, Water Well Standards Supplement
- ☒ Ground water level records
- ☐

Note : Water Level and Water Quality records were obtained from a number of different agencies over a period of years. Because many of the records were not verified, we cannot be certain of the accuracy of all the data.

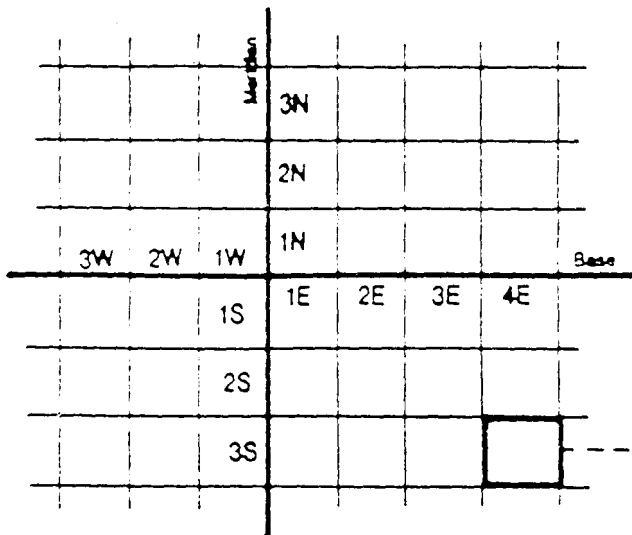
Sincerely,

Ed Low, Associate Engineer  
Data unit  
Resources Assessment Branch  
Southern District

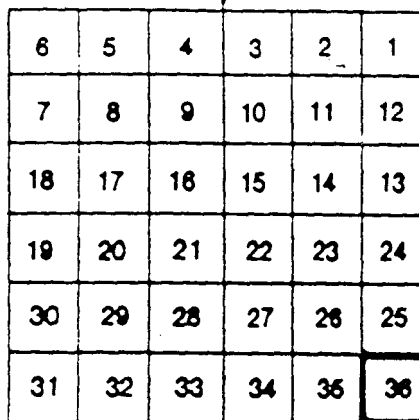
Enclosure(s)

*I would compare these  
logs with the nearest  
cross section you  
can find in Bull 104  
App. A.*

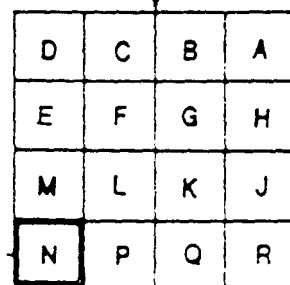
# STATE WELL NUMBER 03S/04E-36N04S



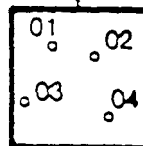
SAN BERNARDINO BASE  
AND MERIDIAN  
Township and Range  
Numbering System



TOWNSHIP 03 SOUTH,  
RANGE 04 EAST  
Section Numbering System



SECTION 38  
Tract Numbering System



TRACT "N"  
Well Numbering System  
and Location

DIVISION OF WATER RESOURCES  
DEPARTMENT OF PUBLIC WORKS  
STATE OF CALIFORNIA

75/14 W-11/1  
SHEET 1  
NUMBER 8-103e

WELL LOG

LOCAL DESIGNATION #1

LOCATION 1850 feet west of Normandie Avenue  
1850 W. 190th Street

N.B.S. 4/14-157

Loc 794 A

OWNER Aluminum Co. of America

SKETCH

DATE COMPLETED Oct. 1948

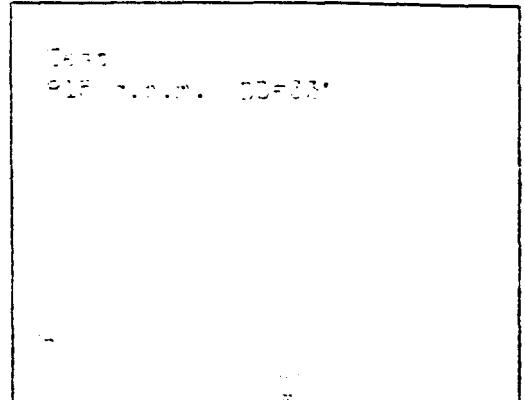
DIAMETER OF CASING 14"

DRILLED BY Roscoe Moss

SOURCE OF INFORMATION U.S.G. #402100

INSPECTED WHILE DRILLING SEE FILE NO.

SURFACE ELEVATION 51



FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-154	103	Sandy clay - soft streaks				
154-182	101	Fine sand				
182-210	99	Blue sand and clay				
210-230	97	Blue clay				
230-292	92	Sand and gravel to 1/4"				
292-420	84	Blue sandy clay				
420-455	81	Clay				
455-465	80	Fine to coarse sand				
465-470	79	Blue clay				
470-480	78	Sand to 1 1/2" gravel				
480-485	77	Clay, sand and gravel				
485-495	76	Sand, gravel to 3"				
495-510	75	Sand to 3/4" gravel				
510-535	74	Sandy clay, some gravel				
535-600	70	Fine sand and clay				
		Exploratory 473-514				
		Water first struck 58'				
		after 160' 55'				

LOG OBTAINED BY DATE

NUMBER P-1038

## WELL LOG

LOCAL DESIGNATION #2U.S.G.S. 4/14-1942LOCATION 1100 feet west of Normandie AvenueLoc. 794 B1150 feet south of 180th StreetOWNER Aluminum Co. of America

SKETCH

DATE COMPLETED October 1942DIAMETER OF CASING 14"Test 810 P.M. DD=28'DRILLED BY Roscoe MossSOURCE OF INFORMATION U.S.G.S. & LAND FIELD

INSPECTED WHILE DRILLING \_\_\_\_\_ SEE FILE NO. \_\_\_\_\_

SURFACE ELEVATION 51

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-35	-14	Sandy clay				
35-157	-156	Sandy clay soft streaks				
157-183	-174	Fine sand				
183-212	-161	Blue sand and clay				
212-420	-364	Blue clay				
420-428	-377	Fine sand to 3/8" gravel				
428-434	-383	Blue sand and clay				
434-455	-405	Blue clay				
455-462	-411	Fine sand and clay				
462-475	-424	Blue clay				
475-482	-431	Sand and gravel to 1"				
482-485	-435	Clay and gravel				
485-504	-453	Sand and gravel to 2"				
504-522	-471	Sand and clay				
522-528	-477	Sand to 3/4" gravel				
528-533	-482	Fine sand some gravel				
533-539	-487	Sand and gravel to 3/4"				
539-545	-494	Sand and clay				
545-600	-549	Sandy clay				
		Perforated 477-506				
		505-530				
		535-540				
		Water first struck 67'				
		" after perf. 80'				

LOG OBTAINED BY \_\_\_\_\_

DATE \_\_\_\_\_

97504-4-12 (17) CALIFORNIA STATE PRINTING OFFICE

BOE-C6-0046335

## DIVISION OF WATER RESOURCES

DEPARTMENT OF PUBLIC WORKS  
STATE OF CALIFORNIA

NUMBER R-1038

## WELL LOG

LOCAL DESIGNATION 43

U.S.G.S. 4/14 1E3

LOCATION 1247 feet west of Normandy Avenue

Loc. 794 C

408 feet south of 180th Street

OWNER Aluminum Co. of America

SKETCH

DATE COMPLETED August 1948

DIAMETER OF CASING 14"

Test 1375 ftm at  
DD=33'

DRILLED BY Roscoe Mogg

SOURCE OF INFORMATION U.S.G.S. 64-10000

INSPECTED WHILE DRILLING SEE FILE NO.

SURFACE ELEVATION 51

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
0-30"	43	Top soil				
3-58"	47	Clay				
58-113"	47	Sandy clay - soft streaks				
113-122 1/2"	71	Fine brown sand				
122-134"	73	Brown sandy clay				
134-153"	74	Blue clay - streaks sand				
153-187"	74	Fine blue sand				
187-214"	74	Blue sandy clay				
214-316"	74	Blue clay				
316-324"	273	Blue clay - 1/4" embedded gravel				
324-330"	271	Blue clay				
330-337"	274	Blue clay 1/4" embedded gravel				
337-413"	277	Blue clay				
413-424"	274	Fine muddy sand some 1/4" to 1/2" gravel				
424-432"	271	Fine sand to 3/8" clay				
432-437"	276	Fine sand and clay				
437-453"	271	Blue sandy clay				
453-470"	271	Fine sand and clay				
470-474"	423	Blue clay				
474-482"	421	Sand and gravel to 1"				
482-485"	424	Sand and gravel to 3/4"				
485-515"	424	Sand and gravel to 3"				
515-519"	421	Sand and gravel to 1/2" muddy				
519-533"	421	Fine sand and clay				
533-547"	421	Sand and gravel to 1"				
547-573"	421	Fine sandy clay				
573-600 1/2"	421	Blue clay				
		Perf. 427-433				
		478-516				
		538-550				
		Water first struck 78'				
		" after perf 83'				

LOG OBTAINED BY

DATE

## DIVISION OF WATER RESOURCES

DEPARTMENT OF PUBLIC WORKS

STATE OF CALIFORNIA

South Coastal Basin

45/14W-7P1

SHEET 1

NUMBER

## WELL LOG

LOCAL DESIGNATION

Loc. #795

LOCATION 558 feet West of Normandie Avenue, 5847 North

Del Amo Boulevard

OWNER Stauffer Chemical Company

SKETCH

DATE COMPLETED June 10, 1948

DIAMETER OF CASING 16"

DRILLED BY Barber-Bridge Drilling Corp., Ltd.

SOURCE OF INFORMATION Stauffer Chemical Company

INSPECTED WHILE DRILLING SEE FILE NO.

SURFACE ELEVATION 47' U.S.C.S. Tops.

FOR FIELD COPIES USE ALTERNATE LINES

DEPTH	ELEVATION OF BOTTOM OF STRATUM	MATERIAL	THICKNESS FEET	% VOIDS	ABSOLUTE VOIDS FEET	TOTAL VOIDS FEET
3' - 11'		Black adobe				
11' - 33'		Clay yellow				
33' - 63'		Cemented shells				
63' - 71'		Sand dry				
71' - 102'		Clay yellow				
102' - 121'		Clay blue				
121' - 133'		Coarse sand, dirty yellow				
133' - 137'	60'	Clay blue sandy				
137' - 151'	57'	Coarse sand, dirty yellow				
151' - 174'	52'	Coarse sand, dirty blue				
174' - 187'	49'	Sea mud				
187' - 248'	40'	Clay blue				
248' - 262'	36'	Coarse sand blue				
262' - 271'	30'	Sand & gravel 1/16"				
271' - 282'	29'	Sand & gravel 1/8"				
282' - 332'	24'	Clay blue				
332' - 413'		Cemented sand				
413' - 458'	1'	Gravelly clay				
458' - 486'	10'	Cemented gravel				
486' - 519'	14'	Gravel tight dirty 1"				
519' - 550'		Gravel loose 1"				
550' - 599'		Clay blue				
599' - 650'		Gravel 1"				
650' - 714'		Gravel 3/4"				
714' - 727'	44'	Clay blue sand				
Perforated: 432-560 8 holes per 6 in.						
603-650 8 " "						
673-714 8 " "						
Depth water first found 71'			Ppg. test			
Standing level before perforating 62'			20 ft. DD - 1060 g.p.m.			
" " after " 77'						
			Cement plug 723-727			

LOG OBTAINED BY